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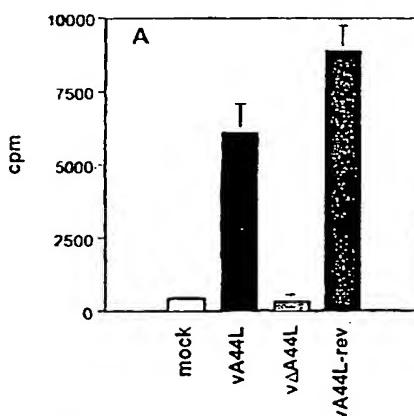
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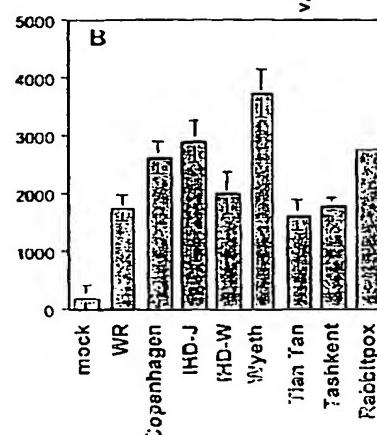
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(54) Title: RECOMBINANT POXVIRUS NOT HAVING A FUNCTIONAL 3BETA-HSD GENE



(57) Abstract: A recombinant poxvirus, wherein the poxvirus genome does not comprise a functional gene encoding a 3 $\beta$ -hydroxysteroid dehydrogenase/ $\Delta^5$ - $\Delta^4$ -isomerase, may be used for vaccination against infection by a poxvirus. The recombinant poxvirus in which, additionally, the poxvirus genome comprises a non-poxvirus gene or a fragment of a non-poxvirus gene which gene or fragment encodes an antigen, for example, of a pathogenic agent, may be used to induce an immune response against the antigen, for example, for vaccination against infection by the pathogenic agent.



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**Published:**

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## INTERNATIONAL SEARCH REPORT

International Application No  
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A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C12N15/861 A61K39/12 C12N15/86

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C12N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BIOSIS, EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SROLLER V, KUTINOVA L, NEMECKOVA S, SIMONOVA V, VONKA V.: "Effect of 3-beta-hydroxysteroid dehydrogenase gene deletion on virulence and immunogenicity of different vaccinia viruses and their recombinants." ARCH VIROL. 1998;143(7):1311-20., vol. 143, no. 7, 1998, pages 1311-1320, XP002254066 cited in the application the whole document ---	1-18,20, 22-50
Y	-/-	1-50

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

## \* Special categories of cited documents :

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- \*E\* earlier document but published on or after the international filing date
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- \*&\* document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 September 2003	13/10/2003
Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5618 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl. Fax: (+31-70) 340-3016	Chambonnet, F

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International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MOORE JB, SMITH GL.: "Steroid hormone synthesis by a vaccinia enzyme: a new type of virus virulence factor." EMBO J., vol. 11, no. 5, May 1992 (1992-05), pages 1973-1980, XP002254067 cited in the application the whole document ----	1, 3-7
Y	WO 92 15672 A (VIROGENETICS CORP) 17 September 1992 (1992-09-17) claims 1-6, 14, 35, 36, 59, 60, 62-65 ----	1-50
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## INTERNATIONAL SEARCH REPORT

Int'l. -- ..al application No.  
PCT/GB 03/02909

### Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:  
**Although claims 26 and 47 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the composition.**
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- The additional search fees were accompanied by the applicant's protest.  
 No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 03/02909

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